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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A device for automatically recognizing the voice of a speaker authorized to access an application, said device comprising means for generating beforehand, during a learning phase, parameters of an acceptance voice model relative to a voice segment spoken by said authorized speaker and parameters of a rejection voice model, means for normalizing by means of normalization parameters a speaker verification score depending on the likelihood ratio between a voice segment to be tested and said acceptance model and rejection model for thereby deriving a normalized verification score, and means for comparing said normalized verification score to a first threshold in order to authorize access to the application by the speaker who spoke said voice segment to be tested only if the normalized verification score is at least as high as the first threshold, and means for updating at least one of said normalization parameters as a function of a preceding value of said one normalization parameter and the speaker verification score on each voice segment test only if the normalized verification score is at least equal to a second threshold that ~~is at least equal to~~exceeds said first threshold.

2. (Previously presented) A device according to claim 1, wherein said one of said updated normalization parameters is representative of a statistical mean value of the speaker verification score.

3. (Original) A device according to claim 2, wherein said statistical mean value $\tilde{\mu}_\lambda$ of the speaker verification score S_V is updated in accordance with the following relationship:

$$\tilde{\mu}_\lambda \equiv (1 - \tau_\mu)\tilde{\mu}_\lambda + \tau_\mu . S_V$$

in which τ_μ is a predetermined adaptation factor.

4. (Original) A device according to claim 3, wherein said predetermined adaptation factor τ_μ varies as a function of the number of normalization parameter updates.

5. (Previously presented) A device according to claim 1, wherein said one of said updated normalization parameters is representative of a measure of spread of values of said speaker verification score.

6. (Previously presented) A device according to claim 5, wherein said measure of spread of values is standard deviation $\tilde{\sigma}_\lambda$ of the speaker verification score S_V and the means for updating is arranged for updating the standard deviation in accordance with the following relationship:

$$\tilde{\sigma}_\lambda \equiv \sqrt{(1 - \tau_\sigma)\tilde{\sigma}_\lambda^2 + \tau_\sigma (S_V - \tilde{\mu}_\lambda)^2}$$

in which τ_σ is a predetermined adaptation factor.

7. (Original) A device according to claim 6, wherein said predetermined adaptation factor τ_σ varies as a function of the number of normalization parameter updates.

8. (Original) A device according to claim 1, comprising means for updating at least one of said parameters of said acceptance voice model as a function of a preceding value of said model parameter only if the normalized verification score is at least equal to said second threshold.

9. (Original) A device according to claim 8, wherein said model parameter m is updated in accordance with the following equation:

$$m = \frac{N_{AP} m_{AP} + N_{adapt} m_{adapt}}{N_{AP} + N_{adapt}}$$

in which m_{AP} and N_{AP} respectively denote a mean value of Gaussian distribution of probability density of said model parameter m during said learning phase and the number of frames in voice segments used to estimate mean values of Gaussian distributions relative to said acceptance model and rejection model, m_{adapt} denotes a mean value of Gaussian distribution of probability density of said model parameter m determined during the update that has just been effected, and N_{adapt} denotes the number of frames used to estimate a mean value of the Gaussian distribution of said model parameter m for said update that has just been effected.

10. (Original) A device according to claim 1, wherein said normalized verification score S_N is determined as a function of said speaker verification score S_V and two updated normalization parameters $\tilde{\mu}_\lambda$ and $\tilde{\sigma}_\lambda$, in accordance with the following equation:

$$S_N = \frac{S_V - \tilde{\mu}_\lambda}{\tilde{\sigma}_\lambda},$$

in which said parameters $\tilde{\mu}_\lambda$ and $\tilde{\sigma}_\lambda$ are respectively the statistical mean value and the standard deviation of said speaker verification score.

11. (Cancelled)

12. (Currently amended) Apparatus for automatically recognizing the voice of a speaker authorized to access an application, said apparatus comprising a processor arrangement for: (a) storing parameters of an acceptance voice model and parameters

of a rejection voice model, the parameters of the acceptance and rejection voice models being stored in the processor arrangement before the processor arrangement automatically recognizes the voice, the parameters of the acceptance voice model being relative to a voice segment spoken by said authorized speaker, (b) normalizing, with the aid of normalization parameters, a speaker verification score depending on the likelihood ratio between a voice segment to be tested and said acceptance model and rejection model for thereby deriving a normalized verification score, (c) comparing said normalized verification score to a first threshold, (d) authorizing access to the application by the speaker who spoke said voice segment to be tested only if (c) indicates the normalized verification score is at least as high as the first threshold, and (e) updating at least one of said normalization parameters as a function of a preceding value of said one normalization parameter and the speaker verification score on each voice segment test only if the normalized verification score is at least equal to a second threshold that ~~is at least equal to~~exceeds said first threshold.

13. (Cancelled)

14. (Previously presented) The apparatus of claim 12, wherein said one of said updated normalization parameters is representative of a statistical mean value of the speaker verification score.

15. (Previously presented) The apparatus of claim 12, wherein said one of said updated parameters is representative of a measure of spread of values of said speaker verification score.

16. (Previously presented) The apparatus of claim 12, wherein the processor arrangement is arranged for updating at least one of said parameters of said

acceptance voice model as a function of a preceding value of said model parameter only if the normalized verification score is at least equal to said second threshold.

17. (Previously presented) The apparatus of claim 16, wherein said model parameter m is updated in accordance with the following equation:

$$m = \frac{N_{AP}m_{AP} + N_{adapt}m_{adapt}}{N_{AP} + N_{adapt}}$$

in which m_{AP} and N_{AP} respectively denote a mean value of Gaussian distribution of probability density of said model parameter m during said learning phase and the number of frames in voice segments used to estimate mean values of Gaussian distributions relative to said acceptance model and rejection model, m_{adapt} denotes a mean value of Gaussian distribution of probability density of said model parameter m determined during the update that has just been effected, and N_{adapt} denotes the number of frames used to estimate a mean value of the Gaussian distribution of said model parameter m for said update that has just been effected.

18. (Currently amended) A method of recognizing the voice of a speaker authorized to access an application, said method comprising: generating beforehand, during a learning phase, parameters of an acceptance voice model relative to a voice segment spoken by said authorized speaker and parameters of a rejection voice model; normalizing, with the aid of normalization parameters, a speaker verification score depending on the likelihood ratio between a voice segment to be tested and said acceptance model and rejection model to thereby derive a normalized verification score; comparing said normalized verification score to a first threshold; authorizing access to the application by the speaker who spoke said voice segment to be tested only if the comparing step indicates normalized verification score is at least as high as the first

threshold; and updating at least one of said normalization parameters as a function of a preceding value of said one normalization parameter and the speaker verification score on each voice segment test only if the normalized verification score is at least equal to a second threshold that ~~is at least equal to~~exceeds said first threshold.

19. (Previously presented) The method of claim 18 further comprising updating at least one of said parameters of said acceptance voice model as a function of a preceding value of said model parameter only if the normalized verification score is at least equal to said second threshold.

20. (Cancelled)